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## Design and Implementation of FAIR principles in digital health data in Uganda, Africa

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Stellingen behorende bij het proefschrift

Design and Implementation of FAIR principles

in digital health data in Uganda, Africa

1. Without clear regulatory guidance, FAIR data adoption has the risk of widening the existing digital gap between rural and urban healthcare providers. (Chapter 4)
2. Digital health systems in Africa are very fragmented, interoperability between these systems can only significantly improve with the adoption of FAIR data principles. (Chapter 6)
3. A FAIR data implementation roadmap tailored to Uganda can serve as a scalable model for other low- and middle-income countries. (Chapter 6)
4. Integrating privacy-preserving computation techniques such as federated learning and differential privacy within DHIS2 will enhance its compliance with modern FAIR and ethical data standards. (Chapter 7)
5. For analytics and machine learning deployment, the scarcity of digitized datasets remains the primary bottleneck in effective data accessibility and reusability for Africa's health sector. (Chapter 8)
6. Federated learning demonstrates meaningful performance of machine learning. It can be applied to distributed healthcare data, thereby offering a viable privacy-preserving alternative to healthcare analytics. (Chapter 8)
7. Developing a FAIR data implementation roadmap tailored to Uganda can be adapted to accelerate digital health transformation in other resource-constrained settings across Africa, Southeast Asia, and Latin America.
8. Data stewardship training should be regarded as a prerequisite rather than a complimentary activity for the successful operationalization of FAIR principles within health institutions and organizations.
9. Field data provides unique insight into diverse contexts.
10. The most significant outcomes of a PhD journey are often the development of critical thinking and resilience rather than the thesis itself - Ultimately shaping the researcher's expertise and growth.
11. Although digital health technologies are designed for all populations, the underrepresentation of women in digital health leadership continues to influence research priorities and innovation pathways.

Mariam Basajja  
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